



QC CONSTRUCTION PRODUCTS®
QUALITY ARCHITECTURAL CONCRETE



For Professional Use Only

Product Information Bulletin 23.0107P

Get value added results by using QC COLORTECH color with ready mixed, precast concrete. Made with high quality synthetic iron oxide pigments, QC COLORTECH is the ideal, economical, integral coloring choice for flatwork and vertical applications.

Uses and Benefits

- QC COLORTECH pigments are available in a wide variety of 42 beautiful standard colors. Custom colors and color matching are also available.
- QC COLORTECH is packaged in disintegrating 1-, 5- and 25-pound bags for exact cubic yard dosing, clean handling and fast batching. (Other packaging options are also available—for complete information, see “Packaging” section in this bulletin.)

Before Any Application

1. QC COLORTECH color is designed for ready mixed, precast, curbing machines and mortar coloring use. QC COLORTECH should not be dusted or sprinkled onto the concrete surface.
2. Consistency of color of cement, aggregates, slump, finishing techniques and curing methods are critical in achieving color uniformity.
3. For consistent color, the use of pozzolans or fly ash is strongly discouraged.
4. Dosage Guidelines:
Disintegrating Bags – Consult the QC COLORTECH Color Chart for color selections and pigment dose per 94-pound sack of cement.
Bulk – Pre-weigh color for accuracy in dosing.
5. A jobsite sample, using the specified mix design and color, should be completed for customer approval. For an accurate color check on a jobsite sample or on any job, the recommended size of the job should be a minimum order of three yards. In order to get an accurate color check, view sample when it has fully cured.
6. Concrete should be batched, placed, cured and finished in accordance with ACI (American Concrete Institute) recommended standards.

Application

1. Ensure that slump does not exceed five inches. Slump should be consistent from pour to pour. Mix designs requiring higher slumps should be achieved by using water-reducing or plasticizing admixtures, not by adding water. Adding water will adversely affect the color.
2. **For Ready Mixed Application:**
 - The drum must be cleaned, and approximately two-thirds of the mix water and one-half of the aggregates needed should be added to the drum. The proper combination of disintegrating bags or preweighed bulk QC COLORTECH should be added to the drum and allowed to mix at a full charging speed for three to five minutes or until bags break apart and pigment is distributed evenly.
 - Add the balance of the ingredients (water, aggregates, cement and admixtures) and mix at a full charging speed for 8-10 minutes (80-100 revolutions). It is the ready mixed supplier's responsibility to make sure bags have fully disintegrated. Failure to follow instructions can result in bags not fully disintegrating.
3. **For Central or Premixed Batch Plants:**
 - After one-half of the total batch has been added to the ready mixed drum, the proper combination of disintegrating bags or preweighed bulk QC COLORTECH should be added. Drum should be allowed to mix at a full charging speed for three to five minutes.
 - Add the remainder of the batch to the drum and agitate at full charging speed until the QC COLORTECH color is completely dispersed throughout the mix—about 8-10 minutes (80-100 revolutions). It is the ready mixed supplier's responsibility to make sure bags have fully disintegrated. Failure to follow instructions can result in bags not fully disintegrating.

4. Jobsite Loading of Integral Colors:

- When applying QC COLORTECH at the jobsite, it is **highly recommended** to open the bag and pour pigment directly into the drum, then discard the bag. Failure to do so may result in improper dispersion which leads to inconsistent color.
- Once pigment has been added, **NO** additional water may be added.

5. Type of aggregate, mix design and water content may affect disintegration of bags. Mixing times and procedures are based on best practices. Mixing times and procedures may vary by region depending on factors mentioned previously (aggregate type, etc.). Before discharging the mix, ready mixed supplier should monitor mix inside the drum to determine that the bags have broken down completely.

6. **For Vertical Applications:** All forms should be cleaned thoroughly prior to use or reuse, and applied release agents should be nonstaining. For best results, forms should be free of cement latents from any prior concrete pour of a different color. For color uniformity, methods and material used in preparing the forms should be consistent through the completion of the job.

To achieve more uniform color, forms should be stripped when the concrete is the same age. Lightly sandblasting vertical surfaces is recommended to remove minor form marks and any cement latents resulting from water, cement and coloring agents bleeding toward the forms during concrete placement.

7. For fiber-reinforced concrete, fibers should be added after QC COLORTECH color has been dispersed.

8. For sand-blasted surfaces, exposed aggregate (3/8-inch size pea gravel) finishes, or typical 3/8-inch size pea gravel mixes, open QC COLORTECH bag and empty entire bag of color into drum to ensure proper dispersion.

9. Concrete should be cured in accordance with ACI standards. QC CONSTRUCTION PRODUCTS offers a variety of curing methods that adhere to ASTM C 309 standards for curing architectural concrete. The use of QC COLOR CURE*, QC COLORWAX*, QC CLEAR CURE* and QC CURE AND SEAL SB* (ASTM C 309 and ASTM C 1315) is recommended for curing most new colored architectural concrete flatwork.

Proper curing, along with maintaining a low slump and protecting the surface against water penetration, reduces the possibility of efflorescence. If efflorescence does occur, remove using QC CON-CLEAN* followed by a light scrubbing or the use of a low r.p.m. rotary scrubbing machine. (**Important Note:** If considering acid-washing with this solution, it is advised to wait a minimum of 14 days following the initial installation of QC COLORTECH.) Properly curing with QC COLOR CURE* or QC COLORWAX*, along with protecting the surface against water penetration, reduces the possibility of efflorescence.

QC CONSTRUCTION PRODUCTS offers a full range of sealers that enhance and finish QC COLORTECH:

- QC CEMSEAL*
- QC PERMASEAL*
- QC VOC 100 WB*
- QC ULTRA SEAL*
- QC SOLVENT SEAL VOC III*
- QC SOLVENT SEAL 18*
- QC SOLVENT SEAL 27*

Maintenance

■ Maintenance will vary depending on a number of factors, including volume and intensity of traffic, geographic location, ultraviolet light exposure and weather conditions.

■ It is strongly recommended that a routine maintenance schedule for all colored concrete be followed so that surfaces maintain a high quality appearance. Every 18-36 months, or as required by volume and intensity of traffic, colored concrete installations should be inspected, cleaned and resealed.

Limitations

QC CONSTRUCTION PRODUCTS has found that certain iron oxide pigment colors can cause self-leveling overlays to cure improperly, or set prematurely. It is not perfectly clear why these issues occur, so QC CONSTRUCTION PRODUCTS cannot guarantee the results or performance of self-leveling overlays using this product. Contact the manufacturer of the self-leveling material for coloring and dosage rate information. *Always create mock up samples and perform strength tests prior to project application.*

■ Inconsistencies in jobsite conditions, finishing practices, concrete mix design and slump, and curing methods may produce variations in the color of the finished product.

■ Integrally colored concrete tends to be limited to earth tone colors rather than lighter, more pastel colors and is not as brilliant as color-hardened surfaces.

■ CC80 is not recommended for use in air-entrained concrete. CC80 is a high-strength tinting carbon black pigment that is subject to fading when exposed to weathering or repeated wetting and drying.

■ As an alternative to CC80, QC COLORTECH CC86 should be used in air-entrained concrete or in concrete exposed to repeated wetting and drying.

■ Non-chloride accelerators may be used but not with concrete mixes containing calcium chloride.

Shelf Life and Storage

QC COLORTECH has a shelf life of one year. Store in dry conditions.

Package Sizes

■ **Disintegrating Bags** – Available in 1-, 5- and 25-pound sizes for exact cubic yard dosing.

■ **Custom Packaging** – QC COLORTECH can be packaged to customer specifications in either bulk bags or in disintegrating bags upon request (example: one bag per cubic yard dosing or multiple bag per yard dosing).

Applicable Standards

1. LEED Qualified.
2. QC COLORTECH meets or exceeds the following ASTM standards:
 - QC COLORTECH pure pigments are fade resistant and conform to ASTM C 979 (except pigment CC80, which is a high-tinting strength carbon black that requires special care—please refer to “Limitations” section in this bulletin).
3. QC COLORTECH meets the requirements of the Uniform Building Code and the Standard Building Code for use in reinforced and prestressed concrete.

QC CONSTRUCTION PRODUCTS should be contacted about approvals in specific jurisdictions. Professional concreting standards and practices, including those published by the American Concrete Institute (ACI), the Portland Cement Association (PCA) and the National Ready Mixed Concrete Association (NRMCA), should be followed.

Specifications

For specification assistance for QC COLORTECH and other QC products, please contact QC CONSTRUCTION PRODUCTS.

Product Handling

For handling and use, consult the corresponding Material Safety Data Sheet before using product.

Warranty

QC COLORTECH, a proprietary product, is warranted to be of uniform quality within manufacturing tolerances. Since control is not exercised over its use, no warranty, expressed or implied, is made as to the effects of such use. Seller's and manufacturer's obligation under this warranty shall be limited to refunding the purchase price of that portion of the material proven to be defective. The user assumes all other risks and liabilities resulting from use of this product. If you have any questions, please contact QC CONSTRUCTION PRODUCTS.

*PLEASE REFER TO CORRESPONDING PRODUCT INFORMATION BULLETIN FOR TECHNICAL AND APPLICATION DATA.

www.qcconstructionproducts.com

For complete information on all QC products—including product information catalogs, product brochures, color charts, technical specifications, sales aids and more—contact QC CONSTRUCTION PRODUCTS.

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